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The DRILLER

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DECEMBER 1946

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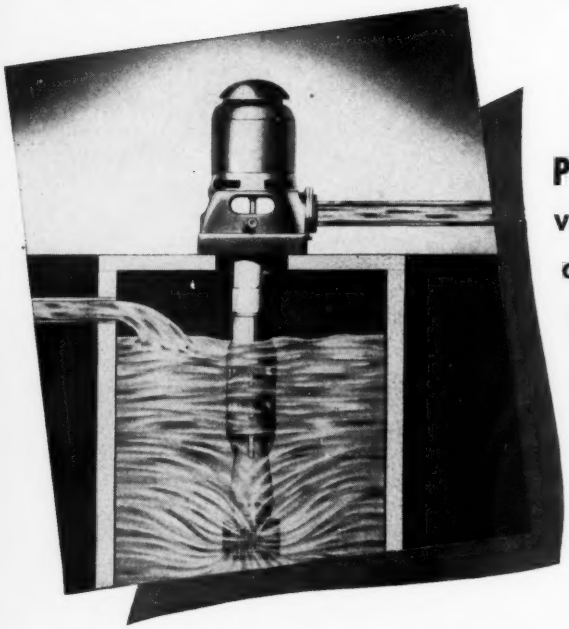

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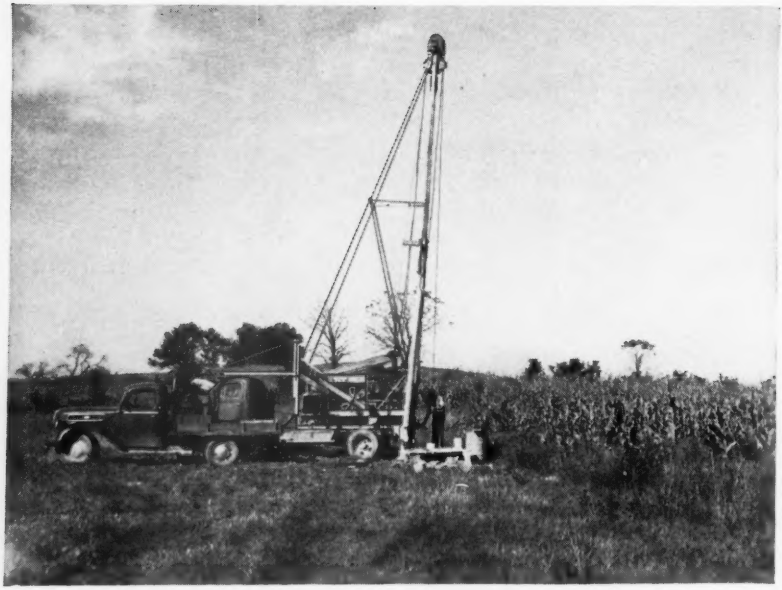


• The hole drilled here is not for a farm water well but for a coal mine. Power lines will lead through it to a shaft of the mine located underneath. The machine is a Bucyrus-Erie 22-W.

Unusual Becomes Ordinary
To Buckeye Driller

NINE times out of ten, a drilling rig set up in a pasture and with a cornfield for a background is working on a farm well. On this basis, one of the recent jobs of S. M. Ebersbach, Zanesville, Ohio, drilling contractor, must represent the tenth time, because even with all the above conditions prevailing, the drilling was being done for a coal mine.

Operating in the surroundings described above, Ebersbach's Bucyrus-Erie 22-W, when visited in September, was drilling an 8-inch hole to accommodate power lines for an underground coal mine, part of which

• A 1½-ton Dodge flat bed truck carries a 150-gal. water tank supplying water for drilling.

Water wells, blast holes, holes for mine power lines and for elevator shafts are jobs which bear out the statement on this driller's letterhead, which says "all kinds of drilling." S. M. Ebersbach of Zanesville, Ohio, is one driller for whom the unusual has become commonplace.

lay directly beneath the obviously agricultural scene. Depth was 43 feet, and the formation a flint rock of an annoyingly tough variety—the kind that batters bits out of gauge in a hurrry and makes on-the-job dressing a "must."

This hole was only a small part of Ebersbach's contract to drill 3000 feet of 8-inch hole at the site of Muskingum Coal Co.'s Misco mine near Deaverton, Ohio, which is located some 18 miles directly south from Zanesville.

Besides holes for power lines, the job included drilling test holes and several water wells to supply the year-old mine, which is producing in the neighborhood of 9000 tons of bituminous coal each day.

Forge Burns Oil

Because practically all of the holes, whose average depth is 200 feet, encountered the hard flint rock at varying depths beneath the surface, Ebersbach kept bit dressing equipment at the drilling location. His forge was built from a large-diameter steel casing lined with fire brick. Unlike many field forges, Ebersbach's burns oil, with the fire forced by a blower attached to his 22-W.

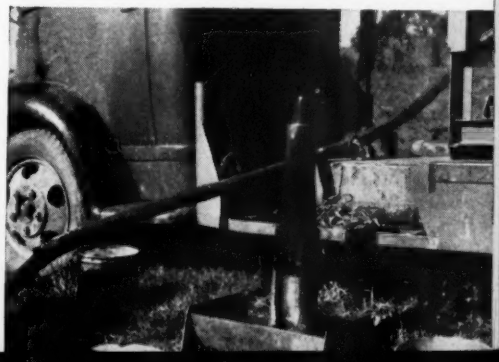
Because bit changes are required frequently, Ebersbach keeps his forging equipment busy in order to have a fresh bit ready at all times. Also much in evidence is the bit gauge, which Ebersbach finds is the best insurance against fishing jobs — when it's frequently used and results heeded.

Keeping bits dressed to gauge has stood Ebersbach in good stead for he's never lost a string of tools on any of his jobs, which usually total to somewhere in the neighborhood of 6000 feet in a year, with about 70% of the total being 8-inch holes and the remainder 6 and 5-inch diameter.

The 8-inch holes represent, in the main, Ebersbach's work for coal mines, while those of smaller diameter are water wells, drilled to an average depth of 60 to 75 feet in a territory embracing Muskingum and surrounding counties. Formations are hard to predict in any specific spot, particularly as to depths of occurence, but sandstone, shale, limestone, flint, and coal veins are often encountered — the latter especially in the mine region south of Zanesville.

Ebersbach's equipment consists of two truck-mounted, Bucyrus-Erie drills — a 22-W and a 21-W — and two trucks: a one-ton Ford pickup and 1½-ton Dodge with flat bed. The former carries a 100-gal. water

• Ebersbach uses a small quenching tank for hardening bits. Tank carries enough water to harden steel in the face and an inch or two back.



• Here is Ebersbach's portable bit furnace which burns oil from the tank in the background and is forced by air from a blower on his rig.

tank and the latter a 150-gal. tank.

The 22-W is only about a year old, and Ebersbach uses it on his larger diameter holes, while the 21-W, purchased in 1940, handles most of the water well work. Both machines are in for a busy year because their owner, hard working and ambitious, likes to tackle the out-of-the-ordinary jobs—so much so that the usual seems commonplace to him.

As an example, consider the fact that Ebersbach's reply to "What unusual jobs have you had?" was "None" — but almost in the same breath he described the following two jobs.

Drilled Elevator Shaft

The first involved drilling an elevator shaft inside a factory building, the owners wishing to replace an old hand-operated elevator with a new, hydraulic one. Specifications required the drilling of a perfectly plumb 12-inch hole 24 feet deep. That, in itself, wouldn't be too difficult — if it weren't for a couple of other annoying facts. It was impossible to get a rig into the building, and although an adjacent alley afforded just space enough to set up a 21-W machine, overhead power lines prevented running the tool string through the roof of the building and down to the hole.

A little intensive study of the situation and Ebersbach came up with a workable solution. A window opening into the alley provided a means of getting the line into the building, but still posed a problem because it was located at a point just opposite the center of the derrick.

To get the line in and still have it plumb so that it would be usable, Ebersbach affixed an extra sheave, on his derrick near the top of the frame, mounting it on a bracket that extended just enough to provide a good lead from the crown sheave. Inside the building, he securely fastened a pulley to the ceiling, and reeved his line from the crown sheave down to the extra sheave below, then up through the window, over the pulley and straight down to the point where the shaft hole was to be drilled.

Used Sand Line

Ebersbach used his sand line and a special driving arrangement to put in the 12-inch hole. He thought it best not to use the drill line, fearing that the snap developed by the spudding motion might tear his ceiling pulley out.

Because of the shallow depth that had to be drilled and the fact that bedrock, at that point, occurred considerably deeper, the most practicable method for drilling the shaft was to drive a 12-inch pipe and bail out the core. With only one line available, however, Ebersbach had to work it so the switch from driving to bailing wouldn't entail a big time-consuming changeover. For this reason he built himself a pipe "driver" equipped with a bail and closely resembling a bailer. The device was

fashioned from a length of 10-inch pipe, the bottom of which was closed. The bail was welded to the top and a driving collar was also welded to the tool near the top. The inside was loaded with sand and gravel for ballast.

In driving the 12-inch pipe to make the hole, the driving tool was placed inside the pipe and alternately raised and allowed to drop, so that the collar drove down against the drive head on the pipe. After driving the pipe several feet, Ebersbach would unhook his "driver," attach his bailer, and bail out the core, then go back to driving. Using this method he quickly finished the job, providing the true, plumb hole the building owner needed.

The second job he mentions was also far from being ordinary because it meant setting his 21-W up on a barge and drilling blast holes in the bottom of the Muskingum river near Zanesville for a crossing for the Big Inch pipeline. Drilling was not necessary for the full width of the river, for half of the river bed was sand and gravel and the other half limestone ledge. A clamshell dug the pipeline path through the sand and gravel but couldn't negotiate the rock.

Worked On Barge

That's where Ebersbach's 21-W came in. With it afloat on a barge he drilled two strings of 5-inch holes, with the strings spaced 10 feet apart and the holes in the string drilled on six-foot centers. The holes—32 of them in all—were not deep, averaging about 15 feet, but, Ebersbach drilled the entire group in four and a half days and four nights, which included the time for loading his machine as well as that of another driller whose machine put down two holes before moving onto another job. Total footage was in the neighborhood of 500 feet.

The holes were loaded with 100% nitro gel, of which 1½ tons were used. Shooting the holes, according to Ebersbach, was as spectacular as it was effective.

Unusual as they were, neither of the two foregoing jobs is considered by Ebersbach as the toughest job he's ever had. That distinction is reserved for still another job — this one a bona fide water well.

Sulphur water was the troublemaker on this well, which was drilled in the early summer of 1946. The hole was started as a six incher, but reduced to five at a point 50 feet from the surface. At 40 feet the first of several coal veins was encountered. This one was about 15 feet thick and Ebersbach cased it out before drilling ahead. At 65 feet sulphur water occurred, so Ebersbach pulled the five inch, and reamed the hole out to 6 inch diameter

(Continued on page 18)

• This weed field will be transformed to lawn when the building for which this well is being drilled, is completed. This is Ebersbach's Bucyrus-Erie 21-W.

New Heatin
WELLS FO

Water well drillers will find the news of this experiment interesting for if it proves successful it will increase the demand for their services and open the door to a new field of opportunity.

• The first well drilled for home heating purposes was put down by Mahoning Drilling & Equipment, Inc., Youngstown, Ohio. Eugene Moore who operated the rig is shown while on the job.

IF experiments soon to be conducted by the Ohio Edison Company in Youngstown, Ohio, prove successful, there is a strong possibility that people may be heating their homes in the near future by simply circulating, through coils in the basement, water that has absorbed heat from a well in the backyard.

This new heating method, which may sound revolutionary, is virtually the reverse of that employed in the operation of the household electric refrigerator, according to officials of the company. In an effort to design an electric heating system that would prove economical for heating the entire home, engineers have developed the "heat pump" or reversed refrigeration cycle. The same equipment can be adapted to cool your home in the summer under their plan.

One of the inaugural experiments is now being carried on in the six-room, two-story home of J. D. Foley of the Youngstown Division Meter Department where Mahoning Drilling & Equipment, Inc., drilling contractors of Youngstown, sank a well to be used in the experiment. The well was put down to just short of 400 feet and was a six-incher. Cased 110 feet to bed rock through glacial drift, the well was finished in 11 days. The volume or production of water is unimportant as no water from the well is acutally consumed by the heating unit.

Complete records will be kept of every phase of the operation, and Rufus Moses, division manager of the company, expressed confidence that over a period of time as engineers work out the "kinks" of the new system it will prove practical and economical. Several other utility companies and electrical equipment manufacturers will also conduct similar tests, he said.

According to Moses, from three to four times as much heat may be obtained with a kilowatt hour of electricity by this method as would be

Unit To Use Heat SOURCE

received from the conventional direct form of heating such as the bathroom electric heater. An understanding of the principles upon which the electric refrigeration system operates is helpful in grasping the heating idea.

In the home electric refrigerator, a series of metal coils runs through the insulated box and into a compressor. The function of the compressor is to pump the heat, which has been picked up by the refrigerant inside the refrigerator, out of the refrigerator into the room air. If you have ever put your hand near the bottom or back of the household refrigerator you may have felt this flow of warm air into the room.

Air Circulated

In the case of the heat pump, which uses practically the same mechanism, this heated air is not allowed to escape, but is circulated through the ducts of the house heating system.

The heat pump which is being installed on the Ohio Edison property works like this: A steel casing is sunk into the ground about three feet from the house. Water fills the casing up to the usual well level. A U-shaped pipe is installed or suspended to the bottom of the well and connects with the heat pump mechanism in the basement. The water that circulates through the U-pipe is not well water, but may come from the city mains. Thus the U-pipe and its connecting heat pump constitute a closed circulating system and once the system is completely filled with water, no additional water supply is required.

The question then arises for what purpose is the well necessary? The answer is this: The water in the bottom of the well is at an almost constant temperature of 55° summer and winter, regardless of the temperature outdoors. The system takes advantage of this constant heat source. The water circulating through the U-pipe also attains this constant temperature of 55° and is delivered to the "heat pump" or refrigeration mechanism in the basement with only the loss of about two degrees of heat.

Continuous Process

The gas refrigerant flowing through the coils of the so-called heat pump will chill the water to about 40° by extracting about 13° of heat. The chilled water then flows back through the U-pipe to the bottom of the well to regain its temperature of 55°. The process is continuous. The heat which has been extracted from the water is absorbed by the refrigerant used in the heat pump. The refrigerant is then pumped through a compressor to an auxiliary set of coils where it is condensed into a liquid, expelling the heat through the coils transferring the heat to the air ducts in the home. An electric fan is employed to circulate the air through the house in order to increase the efficiency of the heating system. Commercial filters, like those employed in other heating systems, are used to remove dust and dirt particles from the circulating air.

At the Foley residence, the water is circulated through the U-pipe at the rate of about 15 gallons per minute by means of a pump driven by a ½ horsepower motor. Similar test installations are being made in Akron and Springfield, Ohio, by Ohio Edison Company.

The DRILLER

A JOURNAL FOR WATER WELL DRILLERS

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Vol. 23 December, 1946 No. 12

Annual Water Report Issued

THE annual report of ground water conditions in the United States by the U. S. Geological Survey was recently issued as follows:

"For the United States as a whole ground-water conditions during the 1946 water year were favorable except in the southern parts of new Mexico, Arizona, and California where continued heavy pumping for irrigation and deficient precipitation resulted in continued declines of water levels. Conditions in heavily pumped industrial areas throughout the country generally remained critical owing to continued heavy draft on ground-water supplies.

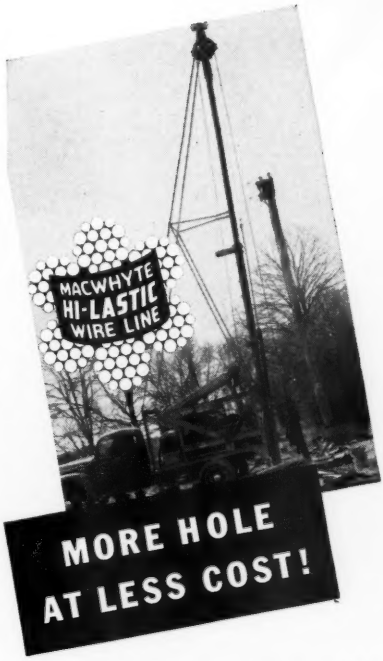
The conditions in shallow wells in areas unaffected by pumpage, as indicated by reports from key observation wells, are summarized as follows: Throughout the Gulf and Southeastern States water levels were above normal during most of the 1946 water year. At the end of September 1946 stages were generally above normal, except in southern Florida where water levels were about normal or slightly below. Many wells were higher than in September 1945. From Kentucky and Virginia northward to the Great Lakes, water levels in wells were generally somewhat above normal at the beginning of the water year, but by September 1946 had declined to slightly below normal except in Wisconsin. In New England, water levels in New Hampshire, Vermont, and Southern Maine were generally somewhat below normal at the end of September and in most wells were lower than a year ago. In eastern and central Massachusetts heavy rain near the end of September raised ground-water levels above the normal and in some wells to the highest September levels in seven years of record. In the region north of Texas, between Mississippi River and the Rocky Mountains, water

levels were generally above normal at the beginning of the water year but had declined to slightly below-normal stages by the end of the water year, except in northern Nebraska, the Dakotas, and Minnesota where above-average stages were recorded throughout most of the water year. In the Northwestern States water levels in wells in Washington, Oregon, and Idaho were generally above normal at the end of the water year and higher than a year ago.

Situation Serious

In southern Arizona pumpage for irrigation continued to increase, causing the heaviest draft on ground-water in the history of the state. During the calendar year 1945, a total of 936,600 acre-feet, or an average of 836 million gallons a day, was pumped from wells in the Santa Cruz and Gila River Basins in Graham, Greenlee, part of Maricopa, Poma, Pinal and Santa Cruz counties in Arizona. About two-thirds of this amount was pumped in the Casa Grande-Florence-Maricopa-Eloy region, where the water levels declined most. The situation in this area is serious, as the safe yield of the formation is believed to have been greatly exceeded. Water levels have continued to fall since 1940 and have dropped as much as 35 feet in five years in some wells.

Concentrated pumpage in several localities throughout the United States caused ground-water conditions to remain critical and in most of these areas investigations are under way to determine what remedial measures will be effective and whether curtailment of pumpage will be necessary. At Baton Rouge, Louisiana, and Memphis, Tennessee, conditions have improved over 1943 and 1944, largely because of decreased pumpage for industrial uses after the termination of the war."



Profitable shallow well drilling calls for Macwhyte "Hi-Lastic," because "Hi-Lastic" gets more work done quicker. It strikes harder, faster blows . . . keeps the bit turning better on all types of formation . . . helps reduce tendency for the hole to get out of round, and for the bit to channel. "Hi-Lastic" is internally lubricated for longer life. No manila cracker needed.

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NEWS OF THE MONTH

Driller Fashions Hoisting Units

A home-made hoisting unit that has proved helpful in dressing and changing bits has been developed by Carl O. Baird of Dora, Ala. Essential part of the unit is an automobile starter which is power supplied by an automobile battery. The battery is charged by the generator on the Bucyrus-Erie 22-W upon which Baird has installed the invention.

Other parts of the hoist include a suitable fly-wheel, two ball bearings, and a properly-shaped piece of flat iron that provides the frame to which a six-inch V-pulley is attached for a brake. This pulley brake works with a spring and has a piece of V-belt connected to one end and a lever on the other. A pull cord is fastened to the lever and the load is raised, lowered, and held by simply pulling, releasing, and half-releasing the cord.

The I-Beam on which the gadget is mounted is low enough on the side of the rig so that it is not necessary to remove it while moving from one job to the other. Capable of handling up to 300 and 600 pounds with one and two part lines, respectively, the unit has helped immensely in swinging bits from the forge to the tempering barrel and in changing bits.

September Levels Are Sporadic

RECHARGE to underground water reservoirs in the east was sporadic with variable trends indicating that normal levels will depend largely on the precipitation of the coming month according to the September water report of the U. S. Geological Survey.

Test well observations showed a drop in water levels in Pennsylvania and North Carolina with the rest of the eastern and southeastern states posting the approximate levels of the preceding month. In Florida, moderately heavy rains brought about high river, lake, and ground-water levels which present a favorable outlook for water supplies during the winter dry season.

A lowering of Indiana water tables was recorded during the month but

this was in accordance with the seasonal trend and was not generally excessive. Observations also showed a slight rise of water levels in Iowa and a marked climb of water tables in Nebraska. Pacific Coastal States reported no notable change in water levels, though tables rose slightly in the heavily-pumped sections of Southern California. Surface and ground-water reserves remain far from abundant in Arizona, but they showed improvement in September and the general outlook in this area has brightened considerably.

N. Carolina Drillers Meet This Month

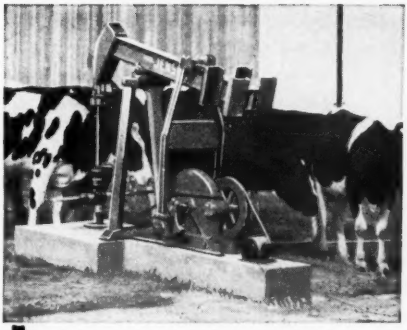
THE city of Raleigh, N. C., has been selected as the site of the North Carolina Well Drillers Association meeting to be held December 12, 13 and 14 at the Carolina Hotel.

Business sessions of the meeting will be conducted in the Ball Room of the hotel where exhibits of the manufacturers will also be displayed. Present plans call for a quarter-scale working model drilling rig to be set up in the room during the meeting.

R. O. Heater, association president, is arranging an interesting program for the Tarheel drillers and has scheduled several informed speakers to address the group on problems relating to the water well field. One of the listed speakers is L. B. Birckhead, Bucyrus-Erie Company, who will talk on the subject, "Maintenance and Repair of Drills in the Field."

Buy Savings Bonds

IN cooperation with the U. S. Savings Bonds Division of the Treasury Department, THE DRILLER urges its readers to prepare for the future by investing in Savings Bonds. Buy now!



Pump Handle Pete Says:

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Pinioned Rig Demolished By Racing Passenger Train

THE tangled mass of wreckage pictured above was once a dependable Armstrong 50-W—until it crossed the path of a speeding westbound passenger train. Owned by William L. Findley & Son, the rig was hit between Casa Grande and Eloy, Arizona, one evening about 6:30 p.m. The machine was being taken across a rough railroad crossing when one of the front wheels turned and caught on the rails. There was no time to extricate the drill before the onrushing train approached in the distance, so the drillers ran forward to flag the train and draw the engineer's attention. However, no apparent response rewarded their efforts and in a few seconds their rig was a junk collector's item. At present, the owners are negotiating with railroad representatives in settlements of their claims.

Paging Mr. Ripley

IN writing to request a change of address in our mailing list, Herbert Moore, Sanitary Engineer, Milwaukee, Wis., informs us that his office is located in a very appropriate position. It's right on the corner of *Wells* and *Water* streets.

Bid Call Issued For Columbia Basin Project

A bid call was recently issued by the Bureau of Reclamation for drilling a water supply well to serve a 48-acre "predevelopment farm" on the Columbia Basin Project located about 12 miles northwest of Pasco, Washington. The project is being prepared for thousands of veterans and others who will settle the farms.

The well, for which bids were opened at Coulee Dam, November 12, when completed will first be used for preliminary irrigation of the farm and later for domestic water purposes. This demonstration farm lies within the 5,397-acre Pasco unit which will receive its water by direct pumping from the Columbia River. The well will provide water for a limited acreage on the predevelopment farm before the main distribution system for the pumping plant is completed.

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FROM THE MAILBAG

This page is open to any of our readers having questions to ask relating to drilling, driving pipe, dressing bits, etc. All letters will be answered promptly by experienced drillers and engineers who are qualified to give intelligent advice on these subjects. We will publish as many letters of general interest as space will permit. Address: The Driller, South Milwaukee, Wis.

Dear Sirs:

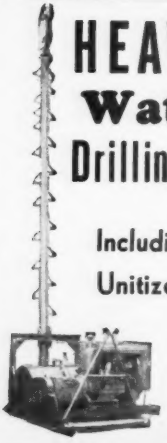
I am writing you in regard to a well with which I am having trouble. The hole is now 236 feet deep. I cased the hole with 8" to a depth of 45 feet at which point I hit a boulder six or seven feet thick. I then reduced to 6¼" hole, following the drilling closely with 6¼" casing because the hole had a tendency to cave. The 6¼" casing was driven to 76 feet, and like the 8", extends to the top of the well. At 76 feet the hole was reduced to 6", and drilled on down 236 feet, the well's present depth. Between 230 and 236 feet I went through a two-foot strip of clay before entering rock again. Though the hole has lead off so that I can't see the bottom of it by using the looking glass method, the tools still turn well and hit a good lick on every stroke. I am using a 3½" x 15' stem and six-inch bit and jars with all joints size 2 x 3 — 8 pin and 7⅜ in. box collars. I would like to know if there is any way I can make the hole go straight from now on (I can't pull casing and ream because of caving). Also do you think that I will hit water pretty soon and do you think this strip of clay will cause any trouble if nothing is done to it? If I should have to put in a short piece of five inch casing are the tools I am using too large for that size casing?

B. M.

Missouri.

If this were my job I would first try to find out just what would be expected in this formation below 236 feet: this probably could be found out from the Missouri State Geological Survey. If this could not be found out I would drill on down with the 6¼-inch hole as long as I could or until I reached sufficient water. If no more soft seams are encountered I would not do a thing to this two-foot strip of clay for it will cave out while drilling and will not fill the drill hole after you are finished with the well. If no more seams are hit and you have your hole a full 6¼-inches, you can put in a liner at any time of 5⅝-inch welded casing either to the bottom or you can suspend this wherever you choose by putting a bend in the upper length in driving it down to its proper place with the under driver.

As for straightening up this hole, there is not much to be done to this unless you want to do a lot of work. I don't think you should do it for it seems that if your tools fall freely it has not run off true very much. You might prevent this in the fu-



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These pumps are designed to perform properly within a definite range. We suggest, therefore, that you submit your pumping problem to our engineering staff. Their recommendation will be based upon wide installation experience and sound engineering practice.

WATER LUBRICATION

No on-the-job column changes necessary

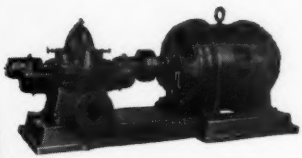
DEEP WELL TURBINES

Features: Deep bronze packing box, designed for high pressure with minimum leakage. Top line shaft bearing, located *at the top* of the column, eliminates whipping through packing box.

Bronze enclosed impellers have uniform, hand finished water passages. Given final machining after assembly on shaft to insure correct running clearance and rotative balance.

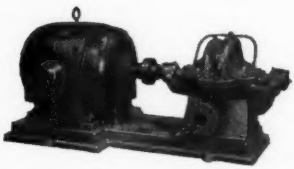
Send for Bulletin 245

Some very productive territories are open for distributors or dealers. Write for full information.



DOUBLE SUCTION PUMPS

For a wide range of applications in general water supply. Split case, ball bearing design. Enclosed type bronze impeller with all water passages hand finished and exterior surfaces machined. *Bulletin No. 248.*



TWO STAGE CENTRIFUGAL PUMPS

For water booster service. Split case design. Passage from first to second stage entirely within casing, reducing friction losses to minimum. Back-to-back, single suction, bronze enclosed impellers. *Bulletin 246.*

AMERICAN WELL WORKS

IN OUR 78TH YEAR
116 North Broadway
AURORA, ILLINOIS

Pumping, Sewage Treatment, and Water Purification Equipment
RESEARCH • ENGINEERING • MANUFACTURING

Offices: Chicago • New York • Cleveland • Cincinnati • Kansas City • Sales Representatives throughout the World

ture by using a longer stem and by using full sized bits and proper dressing. This is very important as you know for drilling a straight hole besides keeping a tight drilling line.

As to running this 2 by 3 joint through a 5-inch casing, I would say it is OK if you have a full 5-inch I.D. casing and an API neck on your rope socket.

Buckeye Driller . . .

(Continued from page 7)

to a depth of 80 feet, then reset the casing.

The sulphur water bugaboo appeared again in less than ten more feet of drilling, so Ebersbach again went through the trying process of pulling out the 5-inch casing and reaming to 90 feet. After setting the casing again, he drilled down to another coal vein at 153 feet, after passing up a small water supply (15 gph) at 125 feet. He drilled through the coal vein in his quest for a more plentiful supply of water, going down as far as 185 feet, where the formation told him it was useless to go farther down. So he plugged back 125 feet, settling for the 15 gph. developed there, and installing the well pump.

But — and this is the "but" that gave Ebersbach grey hair — after the well was finished, the customer complained that the water had a peculiar taste and smell. At last reports, Ebersbach had sent a sample of the water to an Ohio state chemist for analysis. Whatever the result of this check, Ebersbach doesn't want any more wells like this "toughest" one he's had since he went into business in 1938.

Bought Own Rig

At first the business was a partnership and the equipment consisted of a home-made rig. In 1940 the partnership was dissolved and Ebersbach took over for himself, buying a Bucyrus-Erie 21-W, and adding a 22-W in 1945.

At present his help consists of George Cochman, who handles the 22-W, and Jake Jordan who sticks with the 21-W. Ebersbach hopes to get at least one additional man, and preferably two, to take the role of helper on each of the rigs.

With this setup he feels he can do an even better job of spreading the gospel of Ebersbach-drilled wells in the territory around Zanesville.

YOURS for more business!

Complete new Dealer Aid Program — described and illustrated in 44-page catalog of sound, workable ideas. Signs of many kinds, decals, retail advertising material, record forms, etc.— all available to Myers dealers. Write for full information.

THE F. E. MYERS & BRO. CO.
Dept. H-27, Ashland, Ohio

TAKE OFF YOUR HAT TO MYERS WATER SYSTEMS and PUMPS

Officers Elected At Meeting Of Manufacturers

ELECTION of officers featured the 14th annual meeting of the National Association of Domestic and Farm Pumping Equipment and

Allied Products Manufacturers held recently in Chicago.

Robert M. Hula, vice president of Clayton Mark and Co., Evanston, Ill., was re-elected president at the conclave; and H. R. Lafferty, Red Jacket Manufacturing Co., Davenport, Iowa, was elected vice president. J. P. Curtin, vice president of the George D. Roper Corp., Rockford, Ill., was continued in the office of treasurer for the association.

The keynote speech was delivered by H. C. Angster, executive secretary and director, who made his annual report to the membership and outlined the work of the association during the past year as related to its prime objectives.

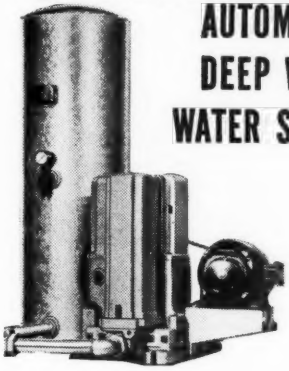
Of interest to drillers was the report made by R. B. Baird, the Duro Co., Dayton, Ohio, chairman of the Materials Committee. He reported on the status of critical materials and pointed out that the combination of governmental restrictions and lack of production would make full production in water systems industry an increasingly difficult goal to attain.

"Odds And Ends"

• "Buck" Cravens of W. Cravens & Sons, San Antonio, Texas, proudly stands beside the rig he built with odds and ends picked up from scrap yards and other sources. Nicknamed "The Pinpoint," the rig can put down a four-inch hole to a depth of 200 feet.

Monitor

AUTOMATIC DEEP WELL WATER SYSTEM



More than half of all farms in the United States now have electric highline power. This is nearly double the number of electrified farms before the war.

What does this rapidly changing situation offer you? Nearly every farm in your community is an immediate or potential market for an electric water system, accessories or service.

The Monitor Automatic Deep Well Water System will help you capture a large share of this tremendous market. It will supply water economically from wells 25 to 400 feet deep. Its long-lasting, trouble-free performance and streamlined eye appeal are valuable sales features.

Write your nearest Baker branch for complete details.

BAKER MANUFACTURING CO.
EVANSVILLE • WISCONSIN
BRANCHES
BAKER MFG. CO.: Minneapolis, Minn.; Madison, Wis.; Fort Dodge, Ia.; Cedar Rapids, Ia.; Omaha, Neb.; Kansas City, Mo.; Enid, Okla.; Hutchinson, Kan.
BAKER MFG. LTD., Winnipeg, Canada
AXTELL CO.: Fort Worth, Tex.; Amarillo, Tex.; Lubbock, Tex.; San Angelo, Tex.

WIT BITS

Pat heard his wife was unfaithful while he was in the Army. When he came home he stormed in and shouted: "Were you out with Callahan?"

She: "No."

He: "With Flannigan?"

She: "No."

He: "O'Toole?"

She: "No."

He: "Oh, so none of my friends were good enough for you, huh?"

"I drank some sulphuric acid by mistake last night."

"Got a hangover?"

"No, but every time I blow my nose it leaves a hole in my handkerchief."

Doctor: "How's the patient this morning?"

Nurse: "I think he's regaining consciousness. He tried to blow the foam off his medicine."

"Grandpa, did you once have hair like snow?"

"Yes, my boy."

"Who shoveled it off?"

"I've been watching that mechanic for the last fifteen minutes. There's a man who knows his business. He did not spill a drop of oil on the ground. He put down his hood gently, fastened it securely, and left no fingerprints on it. He wiped his hands on clean waste before opening the door, spread a clean cloth over the upholstery, meshed the gears noislessly and then drove slowly into the street."

"Yeah, that's his own car."

Mrs.: "That new couple next door seems to be very devoted. He kisses her every time they meet. Why don't you do that?"

Mr.: "I don't know her well enough yet."

The young and keen police officer was being shown over his new night beat by the sergeant. "D'ye see that red light in the distance? Well, that's the limit of your beat. Now get along with it."

The young policeman set out, and was not seen again for a week. When he did show up at headquarters the sergeant demanded furiously where he had been.

"Ye remember that red light?" asked the cop.

"Yes"

"Well, that was a Greyhound Bus bound for San Francisco."

"Sorry to hear about your wife running off with your helper."

"Oh, that's okay. I was going to fire him, anyway."

"And, doctor, do you think cranberries are healthy?"

"I've never heard one complain."

Judge (to plaintiff in compensation case): "Now, show the court the effect of the accident."

The plaintiff stood up with infinite pain, hobbled across the floor.

Judge: "Now, show us how you used to move before the accident."

The plaintiff sailed across the court room with hop-skip-and-a-jump.

Heated Cup Gives Water In Winter

AN outside drinking cup designed for stock use during cold weather has been developed by General Electric engineers. Resembling the cup commonly used inside barns, the new cup is operated by the animal putting its nose against a treadle in the cup which causes fresh water to flow in as fast as the animal drinks.

The cast-iron cup is set in the top of a steel cylinder which is about a foot in diameter and four feet long. A Calrod heater is mounted on the bottom of the cup, and heating cable is wrapped around the four-foot vertical water pipe running up to the cup inside the housing. A thermostat mounted under the cup automatically maintains the water in the cup and pipe at a temperature safely above freezing and cuts off electric power on warm days, thereby reducing operating cost. The housing is buried in the ground to leave the cup at the correct height for the livestock.

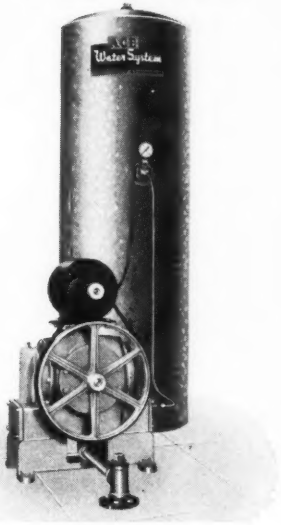
The cup requires a 115-volt a-c power supply.

Making News

IN order to cooperate to the fullest extent with the various state driller associations, we are asking all organizations preparing convention plans to submit to us as much information as possible concerning convention dates, location, and program plans at their earliest possible opportunity.

Even though program plans may be incomplete, it is a good idea to send in an announcement of the convention dates at least a month ahead of convention time to insure that proper space for the news will be allotted to your state. Your help in this matter will be appreciated.

The Greatest Water System Development In Over 50 Years!



- 450 GPH Capacity
- Human Heart Diaphragm Design
- Abrasives in water cannot damage pump
- Sealed Ball Bearings — requires no lubrication
- No packing glands to leak
- Rust-Proof Aluminum Construction
- No impellers or cup leathers to wear
- Positive displacement gives ample water pressure
- Practical Suction Lift — 26 ft.

NOW AVAILABLE FOR DELIVERY

FREE INFORMATIVE FOLDER
Write for complete details of our attractive dealership plan.

ACE PUMP CORPORATION
138 Hernando St., Memphis, Tenn.

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 30c per line. Minimum charge $1.20. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date—10th of preceding month. Example — January issue closes December 10th. Be sure to address separate inquiries to each advertiser by using the correct box numbers. Mail all Box inquiries in care of THE DRILLER, Milwaukee, Wis.

DRILLS FOR SALE

Wood frame, 1500' Sparta cable drill in good condition. Rubber tires, new motor and cables. Lots of tools, 4 stems and drills 6 to 16". Price $1500. Levi Mackin, Loesch, Montana.

20 tons brand new well driller accessory tools, 2x3—7 A.P.I. joints. Babcock sockets, fishing jars, 8 ft. stems, full circle and combination sockets, wire line cutters, 2 prong grabs with bailer latch, pulling rings, 50 ton jacks, underreamers, sand pumps, tool wrenches, etc. Send for list with prices. F. N. Hagmann, Jr., Vienna, Va.

DRILLS FOR SALE

No. 14 re-built Armstrong, modern pipe pole derrick, with Bucyrus shock absorber top. Ford 3 forward speed and reverse motor unit, V-belt, all on pillar block roller bearings. Mounted on hard rubber, chain drive Packard, running condition ok. Boxes and racks for all tools. New belts. Complete with 5⅝" drill line and sand line. Ready to go, now working. Price $2,000 cash.
P. O. Box 181—Delafield, Wis.

Re-built drilling rig. No. 25 heavy duty Armstrong with heavy steel spudding beams. New 7' band-wheel, 10"—6 ply drive belt, new. 35 foot re-inforced derrick with Bucyrus shock absorber on top. Machine now has a vertical steam Keystone engine, and a Bucyrus-Erie winding device. Machine mounted on hard rubber. Price $2,000, subject to prior sale. Gray Well Drilling Company, P. O. Box 181, Delafield, Wis.

No. 160 all steel Howell. Cap. 1000 feet, with catheads, casing reel, and tool guide, less tools and cable. Truck mounted. Glen C. Anderson, 113 Quincy Street, Iron Mountain, Michigan.

Class C Cyclone mounted on 35 International truck. Wood frame and derrick. Steel cable with manila cracker. Model A motor. Complete string of tools for 4" hole. Best offer takes it.
L. Hague, 122 S. 7th St.
Ann Arbor, Michigan

5½ Keystone, Joplin Special, A-1 shape. No tools. Located at Clark & Smith Drilling Co., St. Clair, Mo., Price $2,000.

DRILLS FOR SALE

35-W all steel Armstrong drill with shock absorber, Le-Roi motor. Hard tire mounted with or without 4 to 8" tools. Must be sold. Beck H. Goldbeck, 324 E. Hancock St., Appleton, Wis.

WANTED

A No. 8 or No. 12 Bucyrus-Erie bit dresser; or would be interested in any kind of used bit dresser. Crippen & Hilliard, 508 S. Franklin St., Titusville, Pennsylvania.

Will pay premium price for a 22 or 24 Bucyrus-Erie drilling rig. G. E. Foster, P. O. Box 14, Eldridge, Calif.

Bucyrus-Erie 21-W or what have you for 150 ft. wells. Will pay cash. L. LaRochelle, 1929 N. St. Louis Ave., Chicago, Ill.

Bucyrus-Erie 33-W, 21-W or similar steel rig. With or without truck and tools. H. L. Jones, R. 10, Fairfield, Conn.

A good rotary rig capable of drilling 1000 ft. Would prefer Failing, Franks, Sullivian or any other equal make. Please give price and condition. Leslie Swick and Sons, 602 Ash St., Gordon, Nebraska.

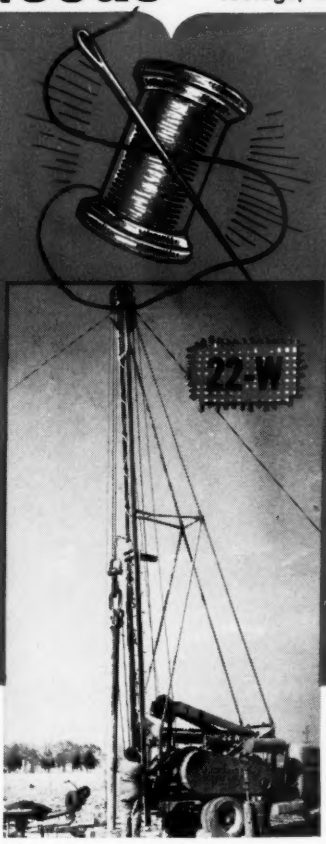
HELP WANTED

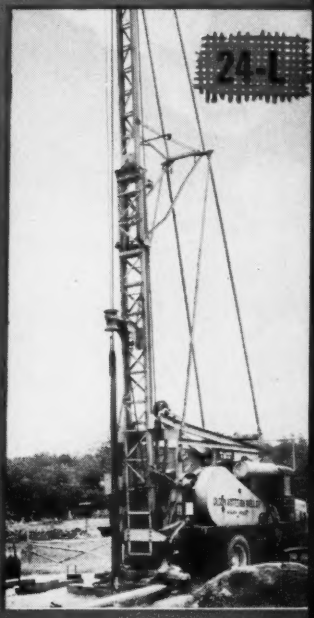
Experienced drillers for eastern U. S. Fully competent. Any size work. Write giving qualifications, experience, names of employers, etc. Box 153.

The Bargain Counter Can Help You In Buying and Selling Used Rigs

ucyrus-Eries are TAILORED
Your Needs

All profit-making Bucyrus-Eries contain these special features that add up to extra footage, extra time, and extra contracts!





ENGTH:

el, electric-welded frames rigid- ld the machine's precision- d gears in firm, lasting align- — there are no bolts or rivets ok off or work loose.

TROLLED POWER:

nery is simple, yet scientifically ucted to furnish the most effi- use as power is transmitted to illing tools. The power is ap- directly from the jack shaft to pudding gear, which eliminates ween gears that sap engine , and does away with a pro- nate amount of torque.

CTIVE LING ACTION:

Bucyrus-Erie has the patented shock-absorber that gives drilling tools a sharp, shattering, hole-producing blow, and at the same time cushions the harmful, jarring vibrations that injure a machine.

SIMPLE OPERATION:

One man alone can operate a Bucyrus-Erie drill because all controls are conveniently placed within an arm's reach of the driller when standing by his drilling line. There is no cramping, twisting, or stretching to get at the various controls — all levers are in plain, easy view.

QUICK SET-UPS:

Quick set-ups are accomplished with little effort. Raising or lowering the telescoping derrick is a matter of a few minutes with the gear driven hand winch. This feature makes Bucyrus-Eries leaders in field maneuvering.

MOBILITY:

Each model drill can be mounted to suit your needs: trailer-mounted, truck-mounted, or steel wheel-mounted. Bucyrus-Erie can take care of your personal transportation problem as determined by local conditions.

For the well driller who wants a drill that measures up to his specifications, Bucyrus-Eries are TAILORED for his needs.

19W46C

BUCYRUS ERIE

MILWAUKEE WISCONSIN U.S.A.

FOR MEMBERS

December 1946

Unusual Becomes Ordinary To Buckeye Driller 4

Water wells, blast ho'es, holes for mine power lines and for elevator shafts are jobs which bear out the statement on this driller's letterhead, which says "all kinds of drilling." S. M. Ebersbach of Zanesvi!le, Ohio, is one driller for whom the unusual has become commonplace.

•

New Heating Unit To Use Wells For Heat Source 8

Water well drillers will find the news of this experiment interesting for if it proves successful it will increase the demand for their services greatly and open a new field of opportunity.

•

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